

# Asthma in Idaho 2002



**Idaho Asthma Prevention and Control Project**  
Division of Health, Bureau of Environmental Health and Safety



IDAHO DEPARTMENT OF  
**HEALTH & WELFARE**



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# Introduction

## Purpose

The purpose of this first *Asthma in Idaho* report is to assist the Idaho Asthma Prevention and Control Project in establishing the baseline for a statewide asthma surveillance system and provide state-specific data for public health planning and intervention by health professionals. To evaluate the burden of asthma in Idaho, the Division of Health, Idaho Department of Health and Welfare has initiated several asthma surveillance activities using existing data sources.

## Asthma Overview

Asthma is a chronic, potentially life-threatening, inflammatory disease of the airways that is increasingly being recognized as a major public health problem. Based on Centers for Disease Control and Prevention (CDC) data, the prevalence of asthma has risen and continues to rise in every region of the country and across all demographic groups, whether measured by age, race or gender. As stated in the May 2000, *Action against Asthma – a Strategic Plan for the Department of Health and Human Services*, “The steady rise in the prevalence of asthma constitutes an epidemic.” Initial data for Idaho indicates that approximately 10% of Idahoans have been diagnosed with asthma.

## Risk Factors

The multiple factors causing asthma are not clearly understood, but include at least a genetic predisposition to develop the disease and environmental exposures that can cause asthma, as well as trigger asthma exacerbations, or asthma “attacks.”

## Idaho Asthma Prevention and Control Project



The Idaho Asthma Prevention and Control Project (IAPCP) was created by the Bureau of Environmental Health and Safety, Division of Health, in 1999 to reduce the growing burden of asthma in the State.

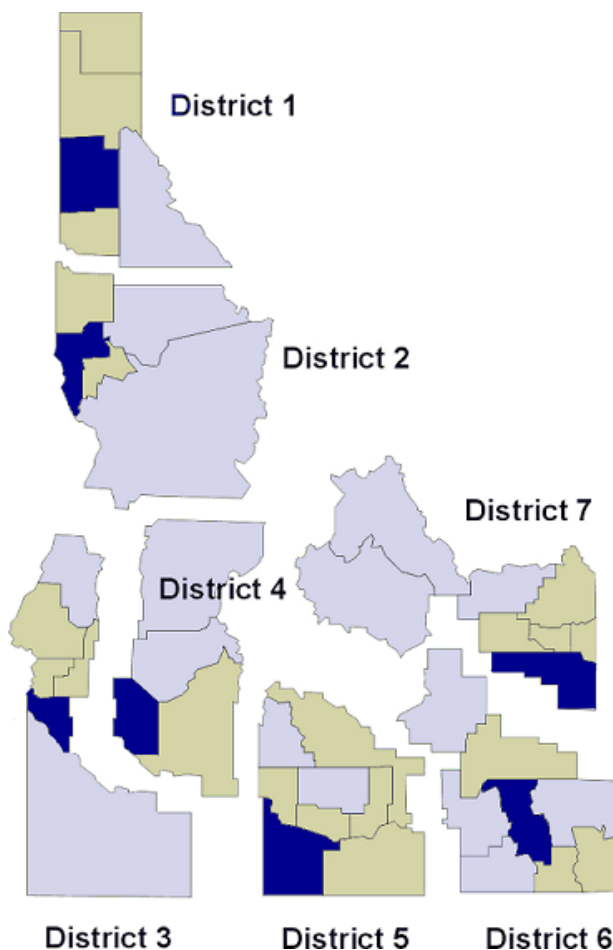
### IAPCP GOALS:

- Increase community awareness – using mass media and other public education channels – that asthma is a serious chronic disease that can be controlled through a physician-directed asthma management plan and that asthma disease and attacks may be prevented by avoidance of exposure to environmental triggers
- Conduct asthma surveillance which is complete, accurate, and timely
- Develop state, local, and organizational policies that reduce the prevalence, severity, and limitations of asthma
- Educate those with asthma and their families to prevent asthma attacks, recognize asthma symptoms early, and seek appropriate care from their health care providers
- Promote and provide education for physicians and other health care professionals to diagnose and treat asthma more effectively by using the latest clinical practice guidelines from the National Heart, Lung, and Blood Institute

# Idaho Demographics

## Geography

- Idaho ranks 11<sup>th</sup> in land area among the states with 82,751 square miles.
- Idaho is comprised of 44 counties. Seven of these counties are classified as *urban* by the U. S. Census Bureau, meaning that each contains a population center with at least 20,000 people. Twenty-one counties are deemed to be *rural*, i.e., contain six or more persons per square mile, while 16 counties are classified as *frontier* with fewer than six people/per square mile.
- Seven public health districts serve Idaho.



## Population



- Idaho ranks 40th in population among the states and the District of Columbia (U.S. Census 2000).
- The population of Idaho totals 1.3 million people composed of the following racial groups (Idaho Vital Statistics 2000):

White	91.0%
Native American/Alaskan Native	1.4%
Asian/Pacific Islander	0.9%
African American	0.4%
Other/multiple	6.2%

- Hispanics, who can be of any race, comprise 7.9 percent of the state's population.

- Urban Population Center > 20,000
- Rural > 6 Persons/Square Mile
- Frontier < 6 Persons/Square Mile

# Asthma Highlights

## Prevalence

It is estimated that approximately 120,000 residents of Idaho have asthma. Nationally, 24.7 million people have been diagnosed with asthma by a health professional within their lifetime; more than a third of them (8.2 million) are children under the age of 18. According to the American Lung Association, for all years, 1997-1999, children between 5-17 years of age had the highest prevalence.

## Mortality

During the decade 1990-1999, 223 adults in Idaho died as a result of asthma.

The average annual asthma death rates are substantially higher among residents who are 65 years of age and older.

## Health Care

Many residents of Idaho who have been diagnosed with asthma are not receiving the level of health care that meets the standards recommended by the National Heart, Lung, Blood Institute (NHLBI). Data from the 1998 Behavioral Risk Factor Surveillance Survey show that 66% of adults with asthma have been educated on the use of their medications to prevent asthma attacks, and less than half (42%) have been instructed on strategies to decrease asthma triggers in their homes.

Areas for achieving improved care include:

- Measures of Assessment and Monitoring
- Control of Factors Contributing to Asthma Severity
- Pharmacologic Therapy
- Education for a Partnership in Asthma Care

## Economic Costs

According to the Asthma and Allergy Foundation of America, in 1998, a conservative estimate of asthma costs for Idaho was 58 million dollars.



## Prevention and Risk Factors

Asthma is a complex disease, and the causes are not well understood. However, known causes include an inherited predisposition to develop the disease (genetics) and environmental exposures.

- Genetic predisposition to develop asthma
  - Atopy - hereditary tendency to experience immediate allergic reactions
    - If one parent is atopic, a child has a 40% chance of being atopic
    - If both parents are atopic, a child has an 80% chance of being atopic
  - Airways and skin of atopic individuals are more likely to react to allergens
- Environmental exposures that can lead a person to develop asthma
  - Indoor
    - Environmental Tobacco Smoke
    - Dust Mites
    - Cockroaches
    - Dander of Furred or Feathered Animals
    - Molds
  - Outdoor
    - Pollen
    - Molds
  - Occupational sensitizers

# Asthma In Idaho

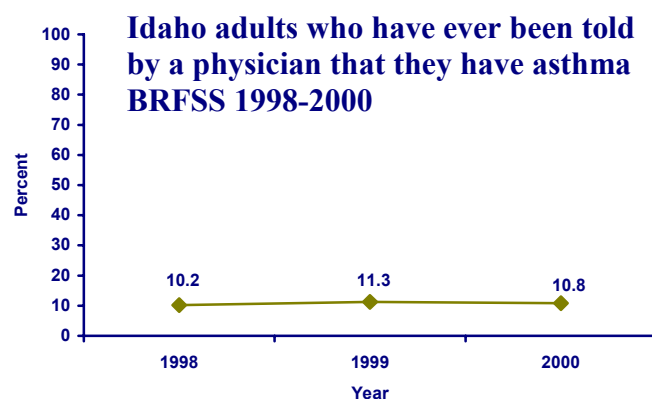
## Adult Prevalence

During the year 2000, 4,978 Idaho adults aged 18 and older were interviewed as part of the Idaho Behavioral Risk Factor Surveillance System (BRFSS). Respondents were asked the following question to determine their lifetime asthma prevalence, “Did a doctor ever tell you that you had asthma?”.

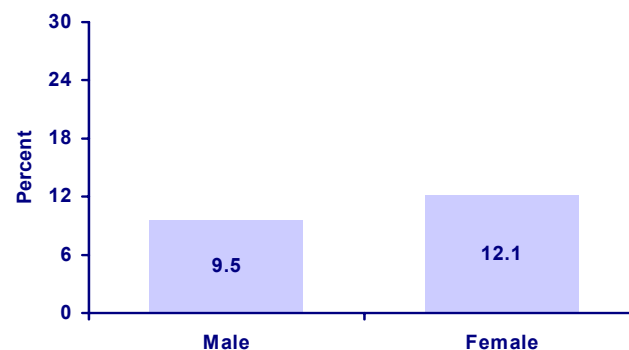
- Eleven percent (10.8%) or 96,000 Idaho adults are estimated to have had a diagnosis of asthma in their lifetime (Fig. 1).
- An association was detected between asthma status and gender\* (Fig. 2) and household income\* (Fig. 3), while no association was detected between asthma status and public health district (Fig. 4), 10 year age groups (Fig. 5), level of education (Fig. 6), and employment status.
- Women are more likely to have a diagnosis of lifetime asthma\* (Fig. 2) and an adult with an annual household income of less than \$15,000 was higher than all other income categories\* (Fig. 3).

Data Note: An (\*) indicates statistical significance ( $p < .05$ ).

**Figure 1. Three Year Asthma Trend**

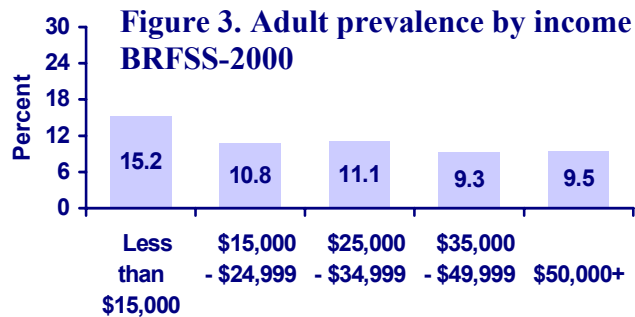


**Figure 2. Adult prevalence by gender BRFSS 2000**

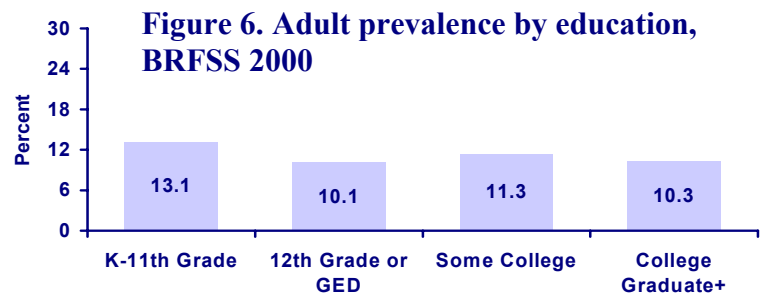
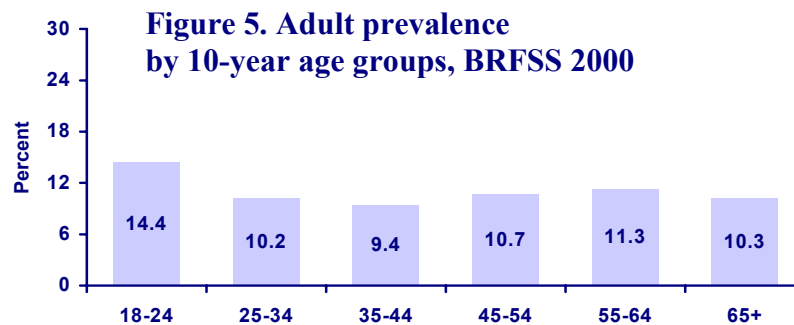
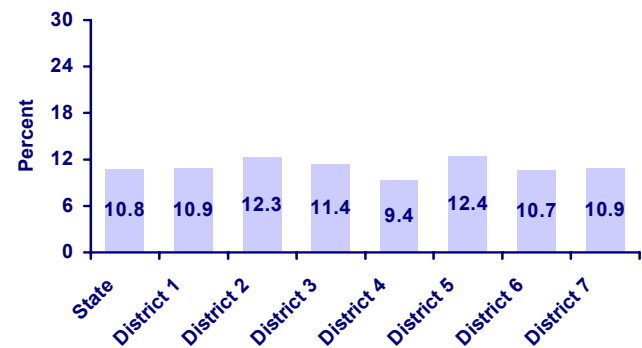


# Asthma In Idaho

## Adult Prevalence (continued)



**Figure 4. Adult Prevalence by Health District BRFSS-2000**





# Asthma in Idaho

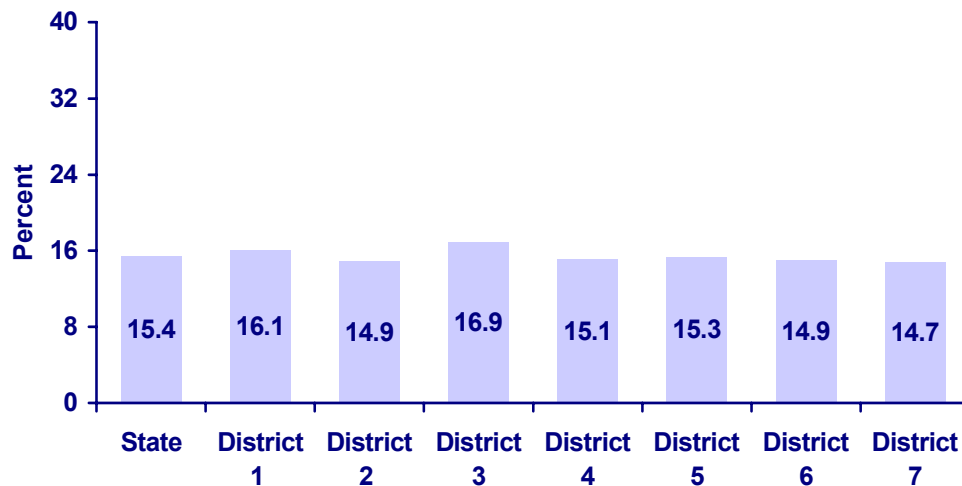
## Childhood Prevalence

The BRFSS is an ongoing, annual surveillance program developed and partially funded by the Centers for Disease Control and Prevention (CDC). It is designed to provide state-specific estimates of the prevalence of risk factors for the major causes of death and disability among adults aged 18 and over. There is no program for gathering similar state-specific childhood data. As a result, there are no Idaho-specific childhood asthma prevalence data. However, in the year 2000, the Idaho BRFSS started asking adults about the presence of diagnosed asthma in children in their household between the ages of 0 and 17. Although the measure does not directly quantify the prevalence of asthma among children, it does represent the first statewide measure of the impact that asthma has on Idaho families.



- Fifteen percent (15.4%) of Idaho households with children 0 to 17 years of age have, at least, one child diagnosed with asthma (Fig. 7). This corresponds to an estimated 31,000 households impacted by childhood asthma.

**Figure 7. Percent of households with children 0-17 years of age who have, at least, one child diagnosed with asthma**



# Asthma in Idaho

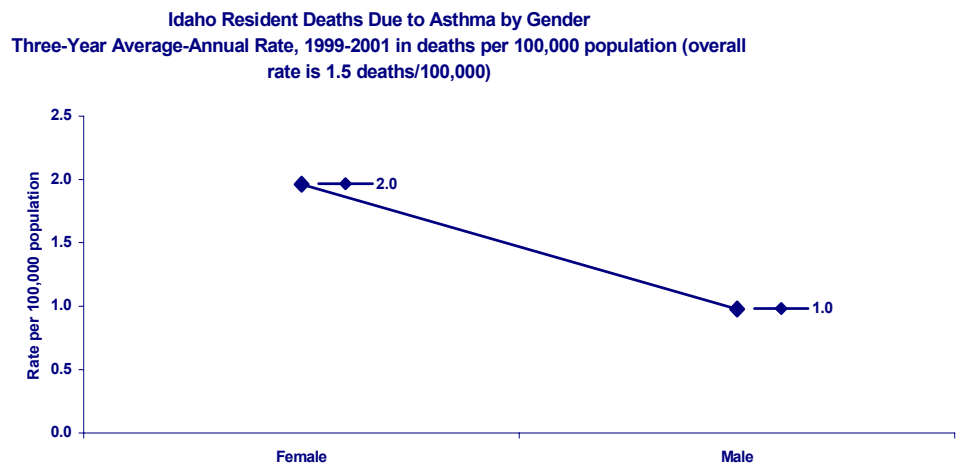
## Mortality

Data from the Bureau of Health Policy and Vital Statistics show that chronic lower respiratory diseases (bronchitis, emphysema, asthma, and others) constituted the fourth leading cause of death among Idaho residents in 2000. It is the third leading cause of death among residents 55-74.

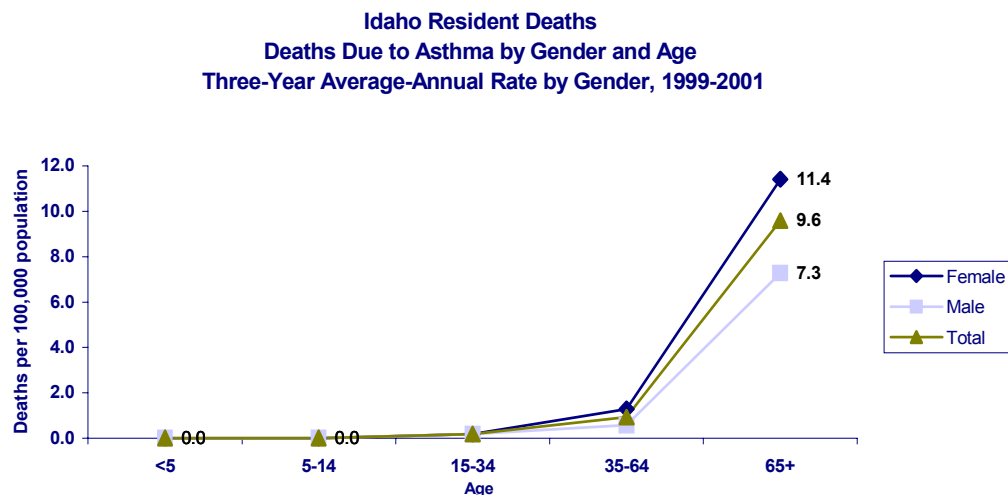


The three-year average annual rate (1999-2001) showed that asthma-related death rates were twice as high for women as men (Fig. 8), and that the asthma-related death rate was higher among older Idaho residents (Fig. 9).

**Figure 8. Idaho Resident Deaths Due to Asthma by Gender**



**Figure 9. Idaho Resident Deaths Due to Asthma by Gender and Age**



# Asthma in Idaho

## Health Care

Asthma is a chronic, inflammatory disease of the airways that requires continuing medical care and education to prevent exacerbations (attacks), minimize the need for emergency department visits or hospitalizations, and prevent irreversible airway changes.



- Statewide, 7.2 percent of Idaho adults with asthma had gone to an emergency room or urgent care clinic in the previous 12 months. Districts 1 and 2 (10.1% and 12.4%, respectively) had the highest rates (Fig. 10).
- Those adults with asthma and who live in District 4 were most likely to have been given advice about how to use medicines to prevent asthma attacks (79.0%). The statewide level was 66.3% (Fig. 11).
- Females were more likely to have been given advice (70.9%) than males (58.9%).
- A greater percentage of adults with asthma living in Districts 1 and 6 and those who had higher levels of education were given advice about how to maintain their homes in a way that would reduce their asthma problems (Fig 12).

Figure 10. Those Who Have Had to Visit the Emergency Room or Urgent Care Clinic in past 12 months due to asthma by Health District (among those with asthma) - 1998 Idaho BRFSS

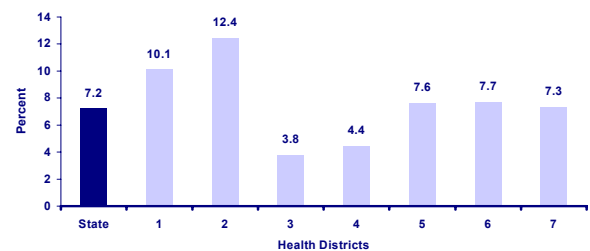


Figure 11. Those given advice by a health professional about how to use medicines to prevent asthma attacks by Health District (among those with asthma) - 1998 Idaho BRFSS

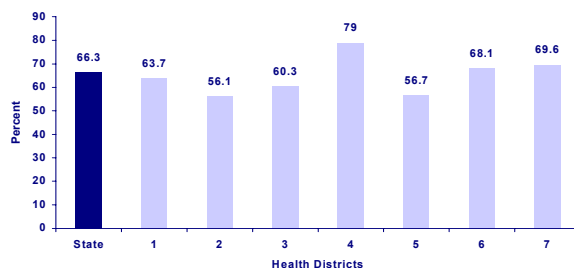
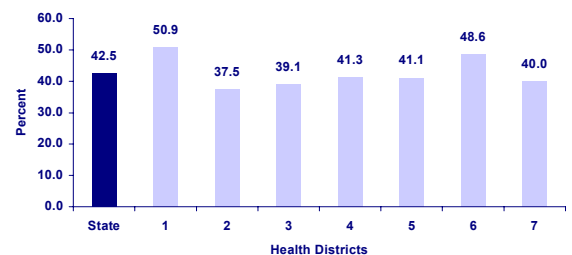


Figure 12. Percent of those given advice by a health professional about how to maintain home to reduce asthma problems by Health District (among those with asthma) 1998 Idaho BRFSS



# Asthma in Idaho

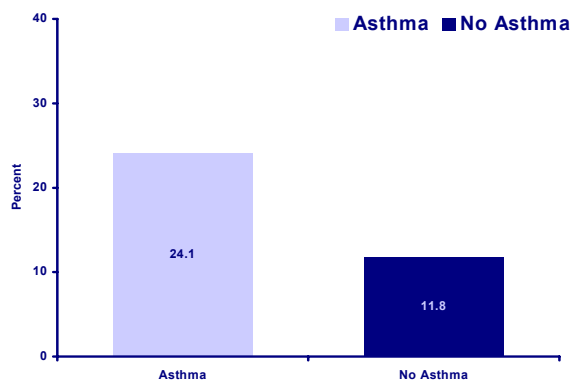
## Quality of Life

Since 1993, the Idaho BRFSS has asked questions that address health-related quality of life. These questions have been useful in assessing the impact of chronic diseases.

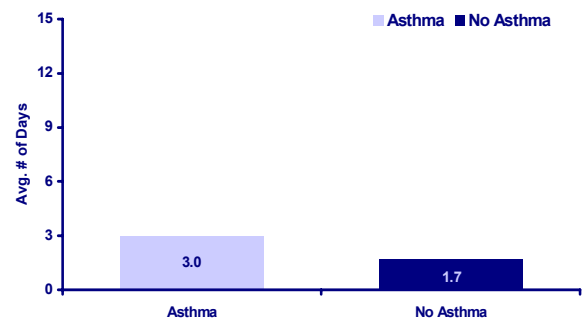


- Adults with asthma were more likely to state that their general health status was only fair or poor\* (Fig. 13).
- Adults with asthma averaged 3 days in which activity was limited due to poor physical health compared to 1.7 days among adults with no asthma\* (Fig. 14).
- Adults with asthma averaged 5.2 days of poor health compared to 2.9 days among adults with no asthma\* (Fig. 15).
- Adults with asthma averaged 4.6 days of poor mental health compared to 3.3 days among adults with no asthma\*.

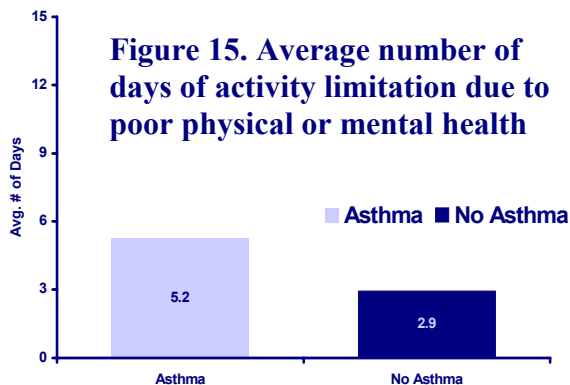
**Figure 13. Fair/poor health by asthma status**



**Figure 14. Average number of days of poor physical health in past 30 days**



**Figure 15. Average number of days of activity limitation due to poor physical or mental health**



Data Note: A (\*) indicates statistical significance ( $p < .05$ ).

# Asthma in Idaho

## Economic Costs

The Asthma and Allergy Foundation of America (AAFA) conservatively estimates that in 1998 (the latest year for which complete data are available) asthma cost Idaho residents 58 million dollars. This includes direct medical expenses of \$33.8 million and indirect costs such as disability, work loss, and premature mortality of \$24.2 million.

National costs for asthma in 1998, according to AAFA, were 12.6 billion dollars in direct and indirect costs.

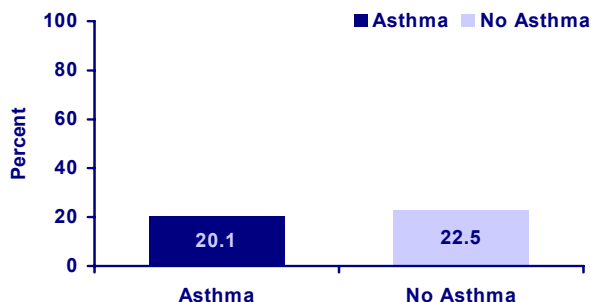
## Risk Factors

### Smoking

Among children two years and younger, exposure to environmental tobacco smoke is a known cause of asthma. For children and adults, exposure to environmental tobacco smoke can cause asthma exacerbations (attacks).

In Idaho, 20% of adults with asthma are current smokers.

**Figure 16. Percent of adults with asthma who are current smokers**



## Resources

Idaho Asthma Prevention and Control Project  
450 W. State St., 4th floor  
Boise, ID 83720  
(800) 491-1464

[www2.state.id.us/dhw/asthma/home.htm](http://www2.state.id.us/dhw/asthma/home.htm)

Panhandle Health District  
2195 Ironwood Ct  
Coeur d'Alene, 83814  
(208) 664-1704

North Central District Health  
215 10th St.  
Lewiston, ID 83501  
(208) 799-3100

Southwest District Health  
920 Main St.  
Caldwell, ID 83605  
(208) 455-5321

Central District Health  
707 N. Armstrong Place  
Boise, ID 83704  
(208) 375-5211

South Central District Health  
1020 Washington St. North  
Twin Falls, ID 83301  
(208) 734-5900 X-247

Southeast District Health  
1901 Alvin Ricken Dr.  
Pocatello, ID 83201  
(208) 478-6316

Health District VII  
254 E. St.  
Idaho Falls, ID 83402  
(208) 522-0310 X-217



# Asthma in Idaho

## Sources

### Asthma Overview

Centers for Disease Control and Prevention. (1998). *Surveillance for asthma—United States, 1960-1995*. Atlanta, GA: U.S. Department of Health and Human Services. Retrieved on June 13, 2000, from <http://www.cdc.gov/mmwr/preview/mmwrhtml/00052262.htm>

U.S. Department of Health and Human Services. (2000). *Action against asthma, a strategic plan for the Department of Health and Human Services*. Washington, DC: U.S. Department of Health and Human Services.

### Mortality

Bureau of Health Policy and Vital Statistics, Idaho Department of Health and Welfare (9/2002).

### Prevalence

Idaho Behavioral Risk Factor Surveillance System, 1998-2000 Survey Data, Bureau of Health Policy and Vital Statistics, Division of Health, Idaho Department of Health and Welfare. 2002.

American Lung Association. (2002). *Trends in asthma morbidity and mortality*. Epidemiology & Statistics Unit. Retrieved on July 15, 2002, from <http://www.lungusa.org/data/asthma/asthmadt.pdf>.

### Economic Costs

Asthma and Allergy Foundation of America. (2002). *Cost of Asthma*. Retrieved on May 13, 2002, from <http://www.aafa.org/temp/display.cfm?id=67&sub=142>.

## Technical Notes

### Mortality—Figures 8 and 9.



Rates are based on 2000 Census population.

Average-annual rate: average number of deaths per 100,000 population in corresponding specified group.

Deaths from 1999-2001 are based on ICD-10 codes for Asthma (J45-J46). Data are not comparable to deaths prior to 1999, without using the appropriate comparability ratio.

Note: Some mortality rates are based on small numbers. Caution must be exercised when interpreting rates based on small numbers.

Note: The 1999 U.S. rate was 1.7 per 100,000 total population; the 2000 (preliminary) U.S. rate was 1.6 per 100,000 population.

### Prevalence

For more information, use the Behavioral Risk Factor Surveillance System website at <http://www.cdc.gov/brfss/>.





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